WE CLAIM:

1. A piezo actuator drive circuit, comprising:

a drive amplifier having an input, and an output adapted to drive a piezo actuator in a voltage mode; and

a calibration circuit coupled to the drive amplifier characterizing the piezo actuator in the voltage mode.

2. The drive circuit as specified in Claim 1 wherein the calibration circuit is selectively coupled to the piezo actuator in a calibration mode.

3. The drive circuit as specified in Claim 2 wherein the calibration circuit provides a predetermined current to the piezo actuator in the calibration mode.

4. The drive circuit as specified in Claim 3 wherein the predetermined current is a fixed current.

5. The drive circuit as specified in Claim 3 wherein the calibration circuit characterizes the piezo actuator as a function of the predetermined current.

6. The drive circuit as specified in Claim 3 further comprising a sense circuit sensing a signal indicative of the piezo actuator when the predetermined current is provided thereto.

7. The drive circuit as specified in Claim 6 wherein the sense circuit comprises a resistor divider providing a voltage signal.

8. The drive circuit as specified in Claim 7 wherein the voltage signal varies proportionally to the piezo actuator load.

9. The drive circuit as specified in Claim 6 wherein the drive amplifier has a feedback, wherein the sense circuit is a portion of the feedback.

10. The drive circuit as specified in Claim 6 wherein the signal is indicative of the piezo actuator load variation.

11. The drive circuit as specified in Claim 2 further comprising a current mirror selectively coupled to the output of the drive amplifier in the voltage mode.

12. The drive circuit as specified in Claim 11 wherein the current mirror is selectively uncoupled from the drive amplifier in the calibration mode.

13 The drive circuit as specified in Claim 12 wherein the current mirror is a class AB amplifier.

14. The drive circuit as specified in Claim 1 wherein the drive amplifier has a voltage mode feedback configured to allow multiple piezo actuators to be driven in the charge mode.

15. The drive circuit as specified in Claim 14 wherein the voltage mode feedback includes a capacitor coupled at the drive amplifier output, wherein the voltage mode feedback senses the voltage at the capacitor.

16. The drive circuit as specified in Claim 15 wherein the voltage mode feedback has an adjustable gain being variable as a function of the number of piezo actuators driven.

17. The drive circuit as specified in Claim 16 wherein the adjustable gain is accomplished using a variable resistor in the voltage mode feedback.

18. The drive circuit as specified in Claim 1 wherein the drive amplifier has a first output, and a second output having a current mirror based on the first output.

19. The drive circuit as specified in Claim 18 wherein a capacitor is coupled to the first output and the piezo actuators are adapted to be driven by the second output.

20. The drive circuit as specified in Claim 19 wherein a first time constant formed by the capacitor and the voltage mode feedback, and a second time constant formed by the piezo actuators and the voltage mode feedback, are substantially equal.

21. The drive circuit as specified in Claim 14 further comprising a DC control circuit controlling the DC value at the piezo actuator.

22. The drive circuit as specified in Claim 21 wherein the DC control circuit is integrated into the low frequency compensation loop.

23. The drive circuit as specified in Claim 1 further comprising a digital-to-analog (DAC) coupled to one drive amplifier input and a voltage reference being coupled to another drive amplifier input.

24. The drive circuit as specified in Claim 1 further comprising an ADC coupled to the calibration circuit.